

full results to THE NAUTILUS. Locality of specimens and number examined from each locality should be given, as well as the occurrence of specimens without the notch. Any other notable variation might also be noticed; and negative results, so far as regards the matter of the notch, will be useful. The entire results can then be collated and published in THE NAUTILUS.

A CONTRIBUTION TO WEST COAST CONCHOLOGY.—*Continued.*

BY HENRY HEMPHILL.

As the original locality, "Santa Barbara," given for *Helix kelletti*, Fbs., is undoubtedly a mistake, some writers on our land shells have referred that shell to Santa Barbara island, which is equally as erroneous. Santa Barbara island is about one or one and one-half miles long and perhaps one mile wide, and quite easy of exploration. On my first visit to it, 25 years ago, I was left there alone for seven days, while the vessel went to San Pedro to be cleaned and repaired. During that time I explored every part of the island, collecting the land shells, which was the especial object of my visit. Last August I made another visit to that island for the same purpose, and gave four days more to collecting the land shells, and during these eleven days not a single specimen of *Helix kelletti* was found, and as dead *Helix tryonii* may be picked up by the thousands, and as no shell of that description was mentioned in Forbes' report of the "Herald and Pandora" surveying expedition or voyage, during which time the original *kelletti* was collected, we may reasonably suppose that the vessels of that expedition did not even visit Santa Barbara island.

It is quite interesting and instructive to note the various opinions that have been expressed from time to time by distinguished conchologists on this matter. In the Am. Jour. of Conch., vol. 4, pl. 4, p. 214, 1868, Dr. J. G. Cooper writes: "Kellett's specimens were probably from one of the small islands off the coast of the peninsula (Lower Cal., H. H.), though credited to "Central America," and were a dwarfed form, the species attaining its highest development on Catalina island, within this state (Cal., H. II.), not Santa Barbara island, as stated by Newcomb, where *tryonii* replaces it."

"Prof. A. Wood found specimens on the summit of a mountain twelve miles east of San Diego, and at one or two thousand feet ele-

vation, which although much smaller were finely colored, more like the original type, or like Mr. Gabb's *stearnsiana*."

In his Manual of American Land Shells, p. 150, Mr. W. G. Binney credits *H. kelletti* Fbs. to San Diego, Santa Catalina Island, San Nicolas Island in the California region; "also 12 miles east of San Diego at 2000 feet elevation," and remarks, "The specimen figured is from Catalina Island. I am positive it is correctly referred to *kelletti*." "Forbes' original figure is copied in Terr. Moll., V." On turning to Terr. Moll. v., I find the figure identical with the one in his Manual, on page 149, which is undoubtedly the Catalina Island form. I may add here that I found no specimens of *H. kelletti* on San Nicolas Island, but my time and operations were limited while there to the south end of that island.

In a paper published in the Proceedings of the Academy Nat. Sciences of Philadelphia, 1900, entitled, "Additions to the Insular Land-Shell Faunas of the Pacific Coast," etc. Dr. Dall writes of *H. kelletti*, "the typical *E. kelletti* is that found in the vicinity of San Diego. It has six whorls and they are well rounded. It differs from the Catalina Island form, in its less flattened and more inflated whorls, more dome-like spire, smaller size and browner aspect, the contrast between the upper and lower sides of the last whorl being less marked. Specimens from Coronado Islands are like those from San Diego. The National Museum has this species only from the above-mentioned three localities authentically. "Santa Barbara," frequently mentioned as a locality, should read "Santa Barbara Islands," as it is improbable that the shell occurs at the town of Santa Barbara on the mainland. A lot in the National Museum are labelled, "Oregon City," Shumard, which is, of course, an error.

If the San Diego and Coronado Islands forms are accepted as the typical *H. kelletti* Fbs., as suggested by Dr. Dall, then *H. stearnsiana* Gabb. must fall into the synonymy of that species, notwithstanding the former is said to have six, and the latter five whorls; and then the Catalina Island form would be undescribed or rather unnamed. Some of the Catalina specimens are an exact imitation of San Diego and Coronado Island examples in coloring, as well as in size. *H. stearnsiana*, at Santo Tomas, and on Todas Santos Islands, lower California, attains a greater size than any specimens of *H. kelletti* that I have ever seen, and associated with them individuals occur as small as the San Diego or Coronado Island forms.

Mr. R. E. C. Stearns, in his usual thorough manner, ventilates this matter of the locality of *H. kelletti* in a paper published in the Annals of the New York Academy of Sciences, May, 1881, entitled, "*Helix aspersa* in California." He quotes the following from Dr. Carpenter's Report on the Mollusks of the West Coast of North America. "Among the wasted opportunities of obtaining very valuable information on geographical distribution must unfortunately be recorded the surveying voyage of the Herald and Pandora, Capt. Kellett, R. N. C. B., and Lient. Wood, R. N."

"Here was an exploration in competent hands on the very incognita itself; and yet, alas! Prof. E. Forbes further states that unfortunately the precise locality of many of the individual specimens had not been noticed at the time, and a quantity of Polynesian shells mingled with them have tended to render the value of the collection, as illustrative of distribution, less exact than it might have been."

The following also from Dr. Carpenter's report refers to the locality of some of the land shells:

"*Helix pandoræ* Forbes. Santa Barbara, as per box-label. San Juan del Fuca, teste Forbes.

"——— *kelletti* Fbs. Allied to *H. californiensis* Lea, same locality.

"——— *aspersa*. Marked Santa Barbara, probably imported."

To the above Dr. Stearns pertinently remarks: "The closing line of Dr. Carpenter hardly justifies the previous remark, 'an exploration in competent hands.'"

Dr. Stearns further remarks: "Binney, in the volume quoted, properly credits *H. pandoræ* to 'Margarita Bay, Lower California.' Forbes' habitat of this species is only seventeen hundred miles too far north, and of *kelletti*, eleven hundred."

"Another distinguished author has placed the Lower Californian *Helix levis* on the Columbia River—about fifteen hundred miles too near the north pole."

As *Helix stearnsiana* Gabb is so closely related to *H. kelletti* Fbs., I will add the following:

Mr. Binney, in the Manual Am. Land Shells, says of *H. stearnsiana*: It has 5 whorls, the measurements are given as, greater diam. 22, lesser 17 mm., height 12 mm. Tryon, in his Manual Conchology, writes, whorls 5, diam. 22 mm.

Mr. Gabb describes the shell in the Am. Jour. Conch. as having

$5\frac{1}{2}$ whorls, gives no measurements, and remarks: "As compared with *H. kellesti* Fbs., this shell has not the peculiar flat sloping top to the whorls so characteristic of Forbes' species, the mouth is much less oblique, the umbilicus is not covered, nor are the ends of the lip connected by either callus or plate over the body whorl. I have made minute comparisons of a large series of the present species, with specimens in the collection of Dr. Newcomb labeled *Kellesti* Fbs., and sent to him by Hugh Cuming."

"Another point of difference is the locality. Forbes' species has never been found farther south than San Diego, and its true habitat is probably on one of the islands of the coast, while our species is essentially a Lower Californian, being found under stumps of Maguey from St. Tomas to a little beyond Rosario."

I may add here that the form we call *stearnsiana* is very variable in size, though quite constant in general coloring. To show these variations in size I add the measurements of two specimens I collected myself at Santo Tomas, in Lower California, Gabb's original locality. The largest measures, great diam. 31, alt. 23 mm.; smallest specimen, great diam. 22, alt. 16 mm.

I have quoted from these eminent conchologists not only to show how much they differ in their opinions about the locality and form of *H. kellesti*, Fbs., and *Helix stearnsiana*, Gabb, but because their writings have become a part of the history of this shell (*H. kellesti*) "without a country."

One fact is sure, the exact locality of *H. kellesti*, Fbs., is lost, and suppositions, probabilities and surmises count for nothing in this case.

As Catalina Island is the nearest point to Santa Barbara, one of Forbes' localities for *kellesti*, where that shell is known to exist, and as it has been largely distributed as the typical form, I think it will be wise to let it remain so, and not attempt any change. If we make the San Diego shell the typical *kellesti*, then *stearnsiana* must fall into the synonymy of that species, for no one with a good series of these shells to study from can by any character whatever separate them. Even some of the Catalina Island shells are an exact imitation in general coloring of the San Diego and Coronada Island *stearnsiana*, and with the same number of whorls.

While upon this chapter of errors, blunders and mistakes, I will call attention to such expressions as the following that occasionally appear in print: "Californian conchologists call such a shell 'so and

so.'” “West Coast conchologists are in error,” etc., etc. One esteemed correspondent quite recently wrote me, “Some West Coast conchologists are a little mixed.” When we understand that most all West Coast conchologists have depended on the “Wise men of the East” for the names and all that pertains to the study of conchology, and that many of their mistakes are simply a reflection back to the East of the blunders that have been sent out to the West by Easterners, we can see just where the smile comes in. My own experience of thirty-five years “on these lines” has two sides to it, one very pleasant and the other very exasperating. I fear there have gone out of my shell den some expressions for which I cannot be held responsible, for in my way of thinking the provocation has been very great.

The fact is we all make blunders and mistakes, and West Coast conchologists do their share; but when we follow monographs published by Eastern conchologists that contain mistakes, and when we depend on Eastern conchologists for the names, and many of these names prove to be erroneous, it seems hardly fair to refer to West Coasters in such a way that those who do not know all the facts would think that West Coast conchologists were nothing but a lot of blunderers. “Wise men of the East,” please take a rest, and pick the beam out of your own eye!

NEW NORTH AMERICAN SPHERIA.

BY DR. V. STERKI.

During the last seven years I had chances to examine tens of thousands of *Sphæria* and *Calyculinae*, alongside with the *Pisidia*, owing to the efforts and the kindness of many conchologists and partly to my own collecting. Yet I refrained from publishing anything on the subject before I should have acquired some knowledge about the range of variation of the several species, almost endless in some instances. There are some new forms, however, so very different from those published that they must be named and described.

Sphærium crassum, n. sp. Mussel large, strongly inflated, almost equipartite, somewhat rhomboidal in perpendicular outline; beaks a little anterior, large and full, slightly flattened on top, prominent over the hinge line; superior margin rather strongly, inferior mod-